

an optical fiber amplifier operatively connected to the optical coupler for amplifying the [optical input signal of the] second optical signal with excitation by an exciting light.

16. (amended) An optical amplifier comprising:

an input terminal receiving an optical input signal;

an optical coupler dividing the optical input signal into a first optical signal and a second optical signal;

an optical filter operatively connected to the optical coupler for passing the first optical signal and blocking an exciting light, which exists along with the first optical signal; a detector operatively connected to the optical filter for receiving the first optical signal passed through the optical filter [detecting] to detect a level of the optical input signal; and

an optical fiber amplifier operatively connected to the optical coupler for amplifying the [optical input signal of the] second optical signal with excitation by the exciting light.

Please add the following new claim:

--17. The optical amplifier according to claim 16, wherein the optical filter blocks the exciting light, which exists along with the first optical signal input to the optical filter, to input to the detector.--

REMARKS

Enclosed is a copy of the drawings filed in the parent application (08/541,788), as requested by the Examiner.

Claims 15-16 stand rejected under 35 U.S.C. §103 as being unpatentable over Hayata or the Applicant's disclosure in view of Yoshida or Bayart et al. Based on the following, these rejections are respectfully traversed.

In response to the above rejection, it is respectfully submitted that the claims recite features neither taught nor suggested by the prior art of record. In order to clarify such distinctions, claims 15-16 have been amended to recite "an optical coupler divides an input optical signal to first and second optical signals, and the first optical signal is received to detect a level of the input optical signal at a detector, while the second optical signal is amplified by an optical fiber amplifier". Further, claims 16-17 no more clearly define that "an exciting light, with excitation by which the optical fiber amplifier amplifies the second optical signal, is blocked to input to the detector".

In making the above rejection, it is stated that Hayata discloses an optical amplifier with an input terminal, an optical coupler, a detector, and an optical fiber amplifier. Further, it has alleged Yoshida and Bayart et al. are directed to fiber optic amplifiers and teach the use of an optical filter positioned downstream of photodetectors to block radiation returned from the amplifier section towards a photodetector.

However, in Hayata an optical fiber amplifier 2 is provided between an optical signal input terminal and a wavelength branch unit 6, and the wavelength branch unit 6 is used to separate an optical signal amplified by an optical fiber amplifier from an exciting light sent through another optical fiber amplifier provided at a next stage.

In other words, the wavelength branch unit 6 in Hayata is not an optical coupler, which divides an optical input signal to first and second optical signals, as defined in claims 15-16. Further, Hayata neither discloses nor suggests that an optical filter could be provided between wavelength branch unit 6 and photodetector 7.

Yoshida discloses only that an optical filter is provided at the output of a pumping light source, but does not suggest any optical coupler dividing an input optical signal to first and second optical signals and a photodetector receiving the divided optical signal to detect the input optical signal as defined in claims 15-16.

Further, in Bayart et al., tapping means 16 is an optical coupler, which taps light amplified by an optical fiber amplifier 10. However, the tapping means of Bayart et al. does not divide an optical input signal.

Claims 15 and 16 stand rejected as being unpatentable over Hayata or applicant's disclosure Fig. 15 when taken with Yoshida or Bayart et al. However, as explained above, in Hayata the wavelength branch unit 6 separates an optical signal amplified by an optical fiber amplifier from an exciting light sent through another optical fiber amplifier provided at a next stage, but it does not divide an optical input signal. Therefore, the present invention as defined in the amended claims 15 and 16 could not be obtained even by taking Hayata with Yoshida or Bayart et al.

As explained above, in Yoshida, an optical filter is provided between a pumping light source and an optical coupler, while Fig. 15 of the present application shows a coupler, which divides an optical input signal to detect a level of the optical input signal, but does not suggest any optical filter. Therefore, it is not possible to obtain the present invention as defined in the amended claims even taking by Yoshida with Fig. 15 of the present application.

Further, the filter 24 is used to monitor an amplified output from the optical fiber amplifier 10 in Bayart et al., while in the present application, an optical filter is used to detect a level of an optical input signal, but not a signal amplified by an optical fiber amplifier. Therefore, the present invention as defined in the amended claims 15-16 and newly added claim 17 cannot be derived even taking Bayart et al. with Fig. 15 of the present application.

In view of the above described distinctions, it is respectfully submitted that the invention of claims 15-17 is not obvious over Hayata or the Applicant's disclosure in view of Yoshida or Bayart et al

An earnest effort has been made to be fully responsive to the Examiner's objections. It is respectfully believed that claims 15-17 are in condition for allowance.

This Amendment is not believed to add new matter, raise new issues or require additional searching on the part of the Examiner. Entry of the Amendment and passage of this case to issue are earnestly solicited.

However, if for any reason, the Examiner should consider this application not to be in condition for allowance, it is respectfully requested that the Examiner telephone the undersigned attorney at the number listed below prior to issuing an Advisory Action.

Any fee due with this paper, not fully covered by an enclosed check, may be charged to Deposit Account 08-1634.

Respectfully submitted,



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